35839

BALLY GROUNDWATER CONTAMINATION SUPERFUND SITE
PROPOSED REMEDIAL ACTION PLAN
PRESENTED BY
THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The United States Environmental Protection Agency (EPA) is seeking comments on the proposed remedial action plan for the Bally Groundwater Contamination Superfund Site.

This proposed plan presents actions that EPA has considered with regard to public concern related to the Bally Groundwater Contamination Site in the Borough of Bally, Berks County, Pennsylvania. These actions were identified by Remedial Investigation Reports and a Feasibility Study which were prepared to evaluate the extent of the contamination problem at the site, the potential risks to the public health and the environment and the steps to be taken to correct the problem.

Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. Section 9617(a), requires publication of a notice and a brief analysis of a Proposed Plan for any remedial action at a Site. The proposed plan begins with a brief history of the Bally Site, followed by a summary of each of the remedial alternatives EPA considered for dealing with the groundwater contamination at this site, and includes EPA's rationale for recommending and, in some cases eliminating, any one of these remedial alternatives. In addition, this proposed plan identifies the preliminary decision on a preferred alternative and explains the rationale for the preference. EPA is seeking public comment on all of the remedial alternatives currently under consideration. At the conclusion of this proposed plan, a glossary of terms that may be unfamiliar to the general public is provided.

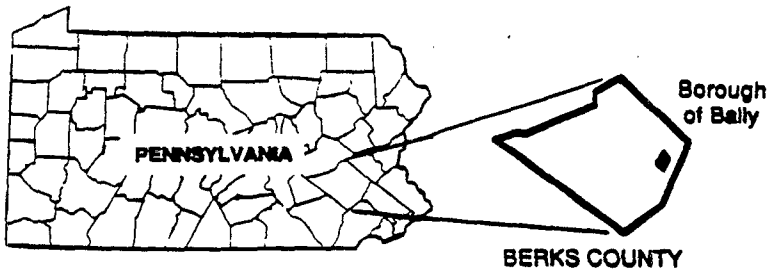
SITE DESCRIPTION AND HISTORY

The Borough of Bally is located in Berks County, Pennsylvania near the Philadelphia metropolitan area. In 1982, the Bally Municipal Water Authority conducted a water quality check of the Bally water system and discovered the presence of elevated concentrations of chlorinated volatile organic compounds (VOCs) in Bally Municipal Well NO. 3. A survey conducted in 1983 by the Pennsylvania's Department of Environmental Resources indicated that the Bally Engineered Structures, Inc. (BES) plant was a potential source of the VOC contamination (See Figure 1). Bally Municipal Well No. 3 was removed from the municipal supply system in December 1982 as a result of the presence of VOCs, most notably 1,1,1, trichloroethane (TCA) and trichloroethene (TCE), both commolly used industrial degreasers. These contaminants are both considered hazardous substances under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

BES signed a Consent Order in January 1987 with EPA to conduct the Remedial Investigation and Feasibility Study (RI/FS) at this site to define the problem and provide alternate ways to mitigate the problem. Groundwater remediation has become the focus of the remediation since no remaining contamination source has been identified on the facility's property.

The Bally Site was evaluated through the Hazard Ranking System (HRS) and subsequently placed on the National Priorities List (NPL) in 1987. The NPL is a list of hazardous waste sites targeted for action under the Superfund program.

SITE MAP - BOROUGH OF BALLY, WASHINGTON TOWNSHIP



THE BALLY SITE

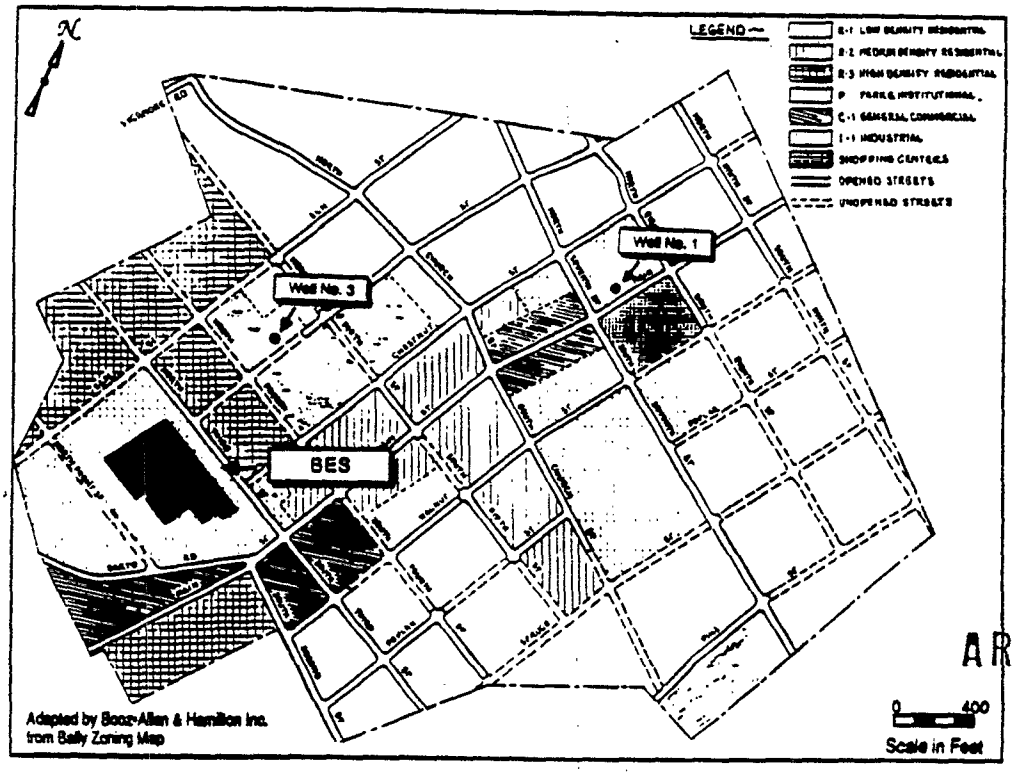


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FIGURE 1

COMMUNITY ROLE IN THE SELECTION PROCESS

This proposed plan is being distributed to solicit public comment regarding the proposed alternative and the other alternatives to clean up the contamination at this Site. Detailed information on all of the material discussed here may be found in the documents contained in the Administrative Record (AR) for the Site, including the RI/FS Report. Copies of these documents are available for review at the following information repository location:

Bally Borough Business Office
South Seventh Street
Bally, Pennsyvalnia 19503
215-845-2351

The public comment period will run from May 21, 1989, to June 19, 1989. If a public meeting is requested or if you have any written comments, questions and requests for information can be sent to:

Patricia Tan, Project Manager
U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107
215-597-3164

Barbara Brown
Community Relations Coordinator
U.S. EPA Region III
841 Chestnut Street
Philadelphia, PA 19107
215-597-9871

A request for a public meeting should be made by June 1st.

EVALUATION CRITERIA

A Remedial Investigation/Feasibility Study (RI/FS) performed under a 1987 Consent Order with EPA, was completed in May 1989. The RI/FS identified remedial action alternatives that would address the contamination of the Site. These alternatives were then evaluated against the following nine criteria:

- Overall protection of human health and the environment: whether the remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced or controlled through treatment, engineering controls, or institutional controls.

- Compliance with ARARs: whether or not a remedy will meet all of the applicable or relevant and appropriate requirements (ARARs) of other Federal and State environmental statutes and/or provides grounds for invoking a waiver. Whether or not the remedy complies with advisories, criteria and guidance that EPA and PADER have agreed to follow.

- Long-term effectiveness and permanence: the ability of the remedy to maintain reliable protection of human health and the environment over time once cleanup goals have been met.

- Reduction of toxicity, mobility or volume: the anticipated performance of the treatment technologies the remedy may employ.

- Short-term effectiveness: the period of time needed to achieve protection, and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- Implementability: the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- Cost: includes estimated capital, operation and maintenance, and net present worth costs.

- State Acceptance: indicates whether, based on its review of RI/FS and Proposed Plan, the State concurs on, opposes, or has no comment on the preferred alternative at the present time.

- Community Acceptance: will be assessed in the Record of Decision following a review of the public comments received on the Administrative Record and the Proposed Plan.

REMEDIAL INVESTIGATION AND RISK ASSESSMENT FINDINGS

The historical problem at the BES site is VOC contamination of groundwater. Site investigations have not identified significant contamination of any other media or located the specific source or sources of the groundwater contamination. The source is believed to be a historic release or releases associated with solvent use and management of spent solvents at the BES plant. The following compounds were selected as indicator compounds:

- Trichloroethane (TCA)
- Trichloroethene (TCE)
- Dichloroethene (DCE)
- Tetrachloroethene (PCE)
- Methylene chloride
- Dichloroethane (DCA)

These compounds were selected because of their presence in groundwater and their potential chronic health effects at low levels, primarily suspected carcinogenicity.

The only known current human exposure takes place through potable use of the contaminated municipal water supply. VOCs currently enter the supply via Municipal Well No. 1 which taps the contaminated aquifer. A cumulative carcinogenic risk estimated for use of the current municipal system, considering no dilution of well water with uncontaminated spring water, is 9.9×10^{-4}. This means that there is the potential for approximately ten additional incidence of cancer in an exposed population of 10,000 people, or one in 1,000. The risk of noncarcinogenic health effects is deemed acceptable for the current municipal groundwater supply system.

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Future plans for the municipal water supply system are to revert to using Municipal Well No. 3, which has been equipped with an air-stripping treatment unit. VOC concentrations to be achieved in the effluent of this well are those set forth in water supply and NPDES permits issued by the PADER. The cumulative carcinogenic risk estimated for use of this well and these VOC concentrations, again considering no dilution of the well water with spring water, is 3.6×10^{-5}, or approximately four additional incidence of cancer in an exposed population of 100,000 people. Estimated noncarcinogenic health risks are acceptable.

Currently, no residential wells know to be contaminated are being used. Use of wells know to be contaminated, or installation of wells in contaminated areas, should be restricted. The carcinogenic risk estimates for use of the Gehman residential well is 6.4×10^{-3}, or approximately six additional incidence of cancer in an exposed population of 1,000 people. The noncarcinogenic health risks associated with using this well are estimated to be marginally acceptable; the estimated contaminant dose is 81 percent of that deemed unacceptable.

Contaminated groundwater is not discharging to surface water in the wetland adjacent to the BES plant. There is evidence that groundwater discharges to the unnamed tributary further to the southeast. Surface water VOC concentrations have not been found in this stretch of the unnamed tributary. However, VOC concentrations detected in well MW 87-10I in this vicinity are far lower than Ambient Water Quality Criteria established for the protection of aquatic biota.

Based upon the information presented in the Remedial Investigation and Risk Assessment, the following remedial action objectives have been developed:

1. Hydraulic groundwater control should be established to contain the identified Site contaminants and to reduce the concentration and mass of these contaminants present in groundwater.

Two alternatives were specifically developed to address the groundwater contamination at the Site. These alternatives were identified and evaluated according to the previous described criteria required by CERCLA.

Development and Screening of Remedial Action Alternatives

The following remedial action alternatives were developed, each providing a different degree of remediation:

Alternative No. 1 - Minimal/No Action: Abandoning appropriate existing private wells; implementing institutional controls on the use of operable private wells and the construction of new wells; conducting public education programs to increase public awareness about the presence of these restriction; performing groundwater and surface water monitoring to measure contaminant concentrations and migration; performing semiannual site inspections; performing a site review every five years.

Estimated Construction Cost: $82,800.
Estimated Operation and Maintenance Cost: $264,345.
Estimated Implementation Timeframe: 30 year

Alternative No. 2 - Groundwater Extraction and Treatment and Alternative Water Supply: Abandoning appropriate existing private wells; implementing institutional controls on the use of operable private wells and the construction of new wells; performing groundwater and surface water monitoring to measure contaminent concentrations and migrations by removing contaminated groundwater from the aquifer through continuous pumping of Municipal Well No. 3; treating the extracted groundwater by one of the treatment options retained for consideration; discharging the treated water from Municipal Well NO. 3 to the adjacent stream or into the Borough of Bally potable water system, as needed to provide a suitable alternative water supply, performing necessary additional studies in the pre-design phase to evaluate the optimal configuration of any additional groundwater extraction well(s) required.

Estimated Construction Cost: $991,818.
Estimated Operation and Maintenance Cost: $323,132
Estimated Implementation Timeframe: 30 year

PRELIMINARY DETERMINATION OF PREFERRED REMEDIAL ALTERNATIVE

Recommendations for Remedial Actions

Alternative No. 2 is recommended since it is the most protective, technically feasibility, practical and effective remedial action for the Bally Groundwater Contamination Site.

Implementation of these recommended remedial activities will meet the objectives of CERCLA to protect human health and the environment, to be cost effective, and to utilize treatment technologies to the maximum extent possible.

EPA, in consulation with PADER, has made a preliminary determination that the preferred alternative provides the best balance with respect to the nine criteria. In addition, groundwater remediation is consistent with the policy of the Pennsylvania Clean Streams Law which provides for the remediation and restoration of polluted streams and groundwater to a clean and unpolluted condition.

SUMMARIZING THE STATUTORY FINDINGS

In summary, at this time the preferred alternative is believed to provide the best balance of trade-offs among alternatives with respect to the criteria used to evaluate remedies. Based on the information available at this time, therefore, EPA believes the preferred alternative would be protect human human health and the environment, would attain ARARs, would be cost-effective, and would utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable.

The proposed remedial activities focus on the known Site contamination. These activities will reduce the risk the Site currently presents to human health and the environment. If unknown conditions or information becomes available and actions are warranted to protect human health and the environment or to prevent abate, or minimize an actual or threatened release of hazardous substances on at or from the Site, previous activities performed at the Site shall not be deemed to limit the power and authority of EPA and the Commonwealth of Pennsylvania.

NEXT STEPS

Following the conclusion of the 30-day public comment period on this proposed remedy, a Responsiveness Summary will be prepared. Changes to the preferred alternative or a change from the preferred alternative to another alternative may be made if public comments or additional data indicate that modifications to the preferred alternative or a different remedy would better achieve the cleanup goals for the Site. The Responsiveness Summary will summarize citizen's comments on the proposed remedy and EPA's responses to these comments. Thereafter, EPA will prepare a formal decision document that summarizes the decision process and the selected remedy. This document will include the Responsiveness Summary. Copies will be made available, for public review, in the information repository listed previously.

GLOSSARY OF TERMS

Administrative Record (AR) - A legal document that contains information on a Superfund site. The AR serves as the basis for the selection of a Superfund response action, and this record is available to the public.

ARARs - Applicable or relevant and appropriate Federal, State or other promulgated public health and environmental requirement.

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act established a Trust Fund for the purposes of cleanup at hazardous waste sites identified on the National Priority List.

Feasibility Study (FS) - The purpose of this study is to identify and screen cleanup alternatives for remedial action, and to analyze in detail the technology and costs involved with the various alternatives.

National Contingency Plan (NCP) - Contains the regulations that govern the Superfund program.

National Priorities List (NPL) - EPA's list of the nation's top priority hazardous waste sites that are eligible to receive federal money for response under superfund.

Remedial Design - An engineering phase that follows the Record of Decision when technical drawings and specifications are developed for the subsequent remedial action at a site on the National Priorities List (NPL).

Remedial Investigation (RI) - The purpose of this study is to gather the data necessary to determine the type and extent of contamination at a Superfund site.

Superfund - The common name used for the Comprehensive Environmental Response, Compensation, and Liability Act, also referred as the Trust fund. The Superfund program was established to help pay for cleanup of hazardous waste sites and to take legal action to force those responsible for the sites to clean them up.